

# Generic and subgeneric names in *Acacia* following retypification of the genus

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## Introduction

There are implications for generic and subgeneric nomenclature within *Acacia sens. lat.* following the decision of the Nomenclature Session of the 17<sup>th</sup> International Botanical Congress (IBC) in Vienna to endorse the recommendation of both the Committee for Spermatophyta and the General Committee of IAPT to accept the Orchard & Maslin (2003) proposal to retypify *Acacia* Mill. with a new type. A summary of the actions of the Nomenclatural Section, including the *Acacia* decision, was presented by McNeill (2006). As a result of the IBC decision the type of *Acacia* changes from the African/Asian species, *A. scorpioides* (L.) W.F. Wright (= *A. nilotica* (L.) Delile), to the Australian species, *A. penninervis* DC. Consequently, there are nomenclatural implications at both the generic and infrageneric levels, depending upon the classification that one adopts for this large, cosmopolitan genus. As discussed by Maslin *et al.* (2003) there exists a strong body of evidence to suggest that *Acacia sens. lat.* should be divided into at least five genera (see Table 1) and although the fragmentation has commenced, not everyone has adopted this classification.

The nomenclatural consequences at the subgeneric level that flow from the IBC decision are: (1) the name subgenus *Acacia* now applies to the 'Australian group' formerly known as *Acacia* subgenus *Phyllodineae* and (2) the former *Acacia* subgenus *Acacia* requires a new subgeneric name. When *Acacia sens. lat.* is treated as comprising multiple genera: (1) the name *Acacia* applies to the 'Australian group' and *Racosperma* is a synonym of it, and (2) *Vachellia* is the correct generic name for species included in the former *Acacia* subgenus *Acacia*.

To date new combinations in *Vachellia* Wight & Arn. have been made for both the American and Australian species (see Seigler & Ebinger 2005 and Kodela & Wilson 2006 respectively). Also, in the Americas new combinations in *Senegalia* Rafinesque have been made for most of the species included in *Acacia* subg. *Aculeiferum* Vassal (Seigler *et al.* 2006; Glass & Seigler 2006), a new genus, *Mariosousa* Seigler & Ebinger, has recently been published to accommodate species of the '*Acacia coulteri* group' (Seigler *et al.* 2006), and the genus *Acaciella* Britton & Rose has been resurrected to accommodate the species in *Acacia* subg.

## Abstract

This paper reviews the current nomenclature for *Acacia s.l.* in light of the decision to retypify *Acacia* Mill. with a new type. The nomenclatural implications for classifications treating *Acacia* as a single genus, or as multiple genera, are summarised.

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*Aculeiferum* section *Filicinae* (Benth.) Taub. (Rico Arce & Bachman 2006). However, new combinations for the African and Asian species currently included in *Acacia* subg. *Aculeiferum* and the former *Acacia* subg. *Acacia* have not yet been made.

As things currently stand, the situation with respect to both the classification and nomenclature of *Acacia sens. lat.* is rather unsatisfactory. Firstly, it is not known if or when the international botanical community as a whole will accept the split of *Acacia*, despite the fact that there already exists a substantial body of evidence demonstrating that *Acacia sens. lat.* is polyphyletic (Maslin *et al.* 2003; Seigler *et al.* 2006; Murphy 2008). While most species in the Americas and Australia have names available under the new genera, this is not the case for most species in Africa and Asia. Secondly, some concern has been expressed regarding the IBC decision to accept the retypification of *Acacia* (e.g. Rijkvorsel 2006) and it is not known if there will be an attempt to have that decision reversed. In the meantime a sense of uncertainty prevails with respect to the application of the name *Acacia*.

Notwithstanding the above it is desirable to clarify the generic and subgeneric names that should be adopted within *Acacia sens. lat.*, whether the group is treated as a single genus or as multiple genera. The

approaches suggested below assume that the IBC decision will prevail.

As already stated, when *Acacia* is treated as a single genus (see Table 1, column 2) there is no subgeneric name available for the former *Acacia* subg. *Acacia* (i.e. the group that contains *A. nilotica*). Therefore, in the absence of a formal subgeneric name it is suggested that this group be referred to as "*Acacia* subgenus 'nilotica group' (= the former subgenus *Acacia*)". As to the 'Australian group' the correct subgeneric name for it is subg. *Acacia*, and under Article 22.1 of the International Code of Botanical Nomenclature, subg. *Phyllodineae* is a synonym of it.

Table 1, column 3 shows what generic names are applicable when *Acacia* is treated as comprising multiple genera, based on the classification as outlined in Maslin *et al.* (2003). Nomenclaturally, the most significant changes apply to "acacias" that occur in Africa, Asia and the Americas where just less than half will become known as *Vachellia* (corresponding to the former *Acacia* subgenus *Acacia*), about half will become known as *Senegalia* (syn. *Acacia* subgenus *Aculeiferum*) and the remainder will be placed in the two small New World genera, *Acaciella* (syn. *Acacia* sect. *Filicinae*) and *Mariosousa* (corresponding to the former "*Acacia coulteri* group"). The genus *Acacia* (syn. *Acacia*

**Table 1.** Generic and subgeneric names for *Acacia sens. lat.* following decision at the Nomenclature Session of the 17th International Botanical Congress (IBC) in Vienna to endorse and ratify the recommendations of the Committee for Spermatophyta and the General Committee of IAPT to accept the Orchard and Maslin (2003) proposal to retypefy *Acacia* with a new type.

Pre-IBC names ( <i>A. nilotica</i> the type of <i>Acacia</i> )	Post-IBC names ( <i>A. penninervis</i> the type of <i>Acacia</i> )	
	<i>Acacia</i> treated as a single genus	<i>Acacia sens. lat.</i> treated as multiple genera <sup>1</sup>
<b>ACACIA</b>	<b>ACACIA</b>	<b>VACHELLIA</b>
Subgenus <i>Acacia</i>	Subgenus 'nilotica group' <sup>2</sup>	
Subgenus <i>Aculeiferum</i>	Subgenus <i>Aculeiferum</i>	<b>SENEGALIA</b>
Section <i>Spiciflorae</i>	Section <i>Spiciflorae</i>	
Section <i>Filicinae</i>	Section <i>Filicinae</i>	<b>ACACIELLA</b>
<i>Acacia coulteri</i> group	" <i>Acacia coulteri</i> group"	<b>MARIOSOUSA</b>
Subgenus <i>Phyllodineae</i>	Subgenus <i>Acacia</i>	<b>ACACIA</b>

<sup>1</sup> Number of genera based on information provided in Maslin *et al.* (2003)

<sup>2</sup> Currently there is no name available at the subgeneric level for this taxon

subgenus *Phyllodineae* (DC.) Ser. and *Racosperma* Mart.) is the largest group and is predominantly confined to Australia but is extensively cultivated around the world. Because combinations in *Vachellia* and *Senegalia* have not been made for the African and Asian species it can be problematic if one needs to provide a generic context for these entities. In these cases the following appellations are suggested, using *A. nilotica* as an example: *Acacia* (*Vachellia*) *nilotica* or *A. (Vachellia) nilotica*.

What is most likely in the future is that the fragmentation of *Acacia sens. lat.* will continue and that names will become available under the new genera (Table 1, column 3) at irregular intervals over a period of time. Furthermore, as noted by Brummitt (2004), it is not inconceivable that more than five genera may ultimately be recognised from within *Acacia sens. lat.* For these reasons the Species Gallery of the Worldwidewattle website (<http://www.worldwidewattle.com/>) is keeping track of the new names as they are published and for the sake of convenience presents them as 'Alternative' names to *Acacia*. Worldwidewattle also provides users with alternative views of the classification of *Acacia*, namely, single- vs multiple-generic views.

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